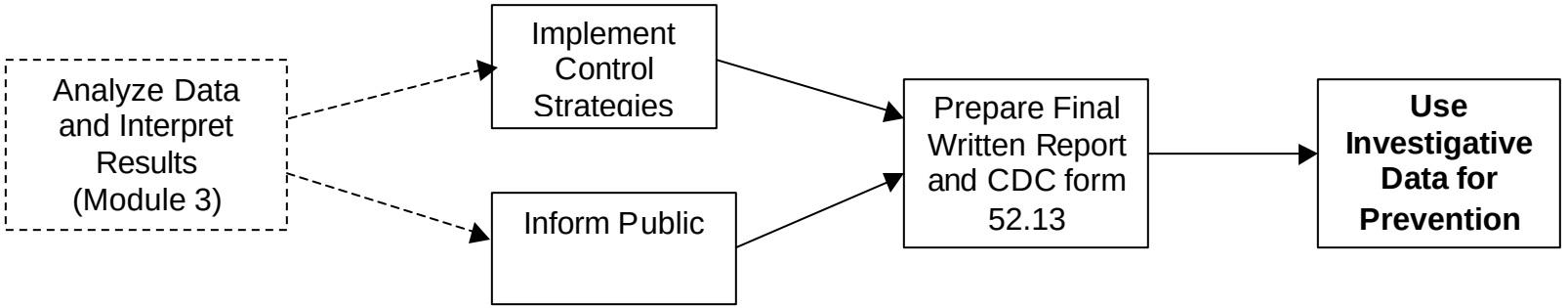
MODULE 4: OUTBREAK CONCLUDING ACTIONS



I. Task List

A. Implement Control Strategies

- ❑ Initiate or finalize control strategies to prevent additional cases of foodborne illness.
- ❑ Identify method(s) of assessing compliance with control measures.
- ❑ Coordinate actions with state and federal agencies when multiple jurisdictions are involved.

B. Inform Public

- ❑ Determine if there is an ongoing public health threat.
- ❑ Alert the public to both the potential hazard and methods of reducing risks.
- ❑ Keep records for future reference.

C. Write Final Report & Submit CDC 52.13

- ❑ Prepare final written report.
- ❑ Complete CDC form 52.13
- ❑ Submit to MDA.

D. Use Investigative Data for Prevention

- ❑ Hold investigation team meeting to review investigation and findings.
- ❑ Identify risk factors that caused or contributed to the outbreak.
- ❑ Determine the extent of high-risk practices.
- ❑ Develop a plan to reduce risk factors.
- ❑ Communicate findings to those who can put them into practice.

II. Task List Related Information

A. Implement Control Strategies

- ❑ Initiate or finalize control strategies to prevent additional cases of foodborne illness.
  - If outbreak involves a licensed food establishment, follow procedures, protocols and state laws with regard to license limitation, revocation, or establishment closure.
  - Assure constitutional right to due process (see Act 92, P.A. 2000, Sec. 5113 Michigan Food Law)
    - Follow Administrative Procedures Act, (Act 306, P.A. 1969)
  - Take actions appropriate for risks.
    - Likelihood of contamination
    - Severity of disease
  - Examples of options:
    - Hold, seizure, or embargo contaminated or suspect products
    - Cease production of implicated product
    - Change preparation methods
    - License or menu limitation
    - Facility closure (requires support of prosecuting attorney)
    - Food Worker Exclusion / Restriction – see Appendix 6
    - Control of Hepatitis A – see Appendix 7
    - Tracebacks – see Appendix 8
    - Recalls – see Appendix 9
- ❑ Identify method(s) of assessing compliance with control measures.
  - Follow up with facility to make sure all control measures are practiced.

- ❑ Coordinate actions with state and federal agencies when multiple jurisdictions are involved.

B. Inform Public

- ❑ Determine if there is an ongoing public health threat.
    - Factors to consider before communicating with the media
        - Magnitude of risk:
            - Severity of illness
            - Number of people exposed
            - Highly susceptible populations
            - Potential for ongoing exposure
            - The need for an informed public to help reduce illnesses in community
        - Certainty of information
        - Availability of practical measures to reduce risk.
            - Immunoglobulin for Hepatitis A
            - Cooking or other safe preparation practices
            - Effective medical treatment
        - Recommend developing written procedures for informing the public of foodborne health threats. Key issues are identified in Appendix 10: Communications.
- ❑ Alert the public to both the potential hazard and methods of reducing risks.
- ❑ Keep records for future reference. Considerations:
    - Freedom of Information Act (FOIA) requirements
    - Legal challenges to actions taken/not taken
    - Lessons learned

C. Write Final Report & Submit CDC 52.13

- ❑ Prepare final written report.
  - A final report is not required when it can not be determined if an outbreak was foodborne. Complete a termination report - See Module 2 Termination Report.
  - Reports have multiple purposes:
    - Documentation for potential legal actions
    - Record of government actions during the investigation
    - Documentation for communicating planned actions and lessons learned.
  - MDCH and MDA are available for consultation.
  - Should not take more than four hours to complete. See Appendix 3 for completed example.

Recommended Final Report format:

1. Introduction and Background
2. Epidemiologic investigation
   A. Methods
   B. Results
3. Environmental investigation
   A. Methods
   B. Results
4. Laboratory investigation
   A. Methods
   B. Results
5. Discussion
6. Recommendations

- Evidence of Causation
  - Strength of association
    - Magnitude of Odds Ratio or Relative Risk
  - Consistency of data

        - Internally (this investigation)
        - Externally (with other investigations)
    - Temporality (cause precedes effect)
    - Biologic plausibility
    - Dose-response relationship
        - Example: Consistent increase in attack rate as servings consumed increases.
    - Coherence with known (published) information about the disease
    - Experimental evidence
        - Example: lab study shows Shigella grows rapidly on chopped parsley at room temperature

- Multiple types of evidence may be available to document an association between illnesses and exposures.
    - Epidemiologic
        - Descriptive
            - ⇨ person
            - ⇨ place
            - ⇨ time
        - Statistical

- Environmental Evidence
    - Document and analyze factors leading to:
        - **C**ontamination
        - **S**urvival
        - **G**rowth
        - **D**estruction

- Record Findings
  - Accurate information on specified forms
  - Flow of foods – diagram
  - Kitchen/establishment diagram
  - Food sources:
    - Labels
    - Tags
    - Invoices
- Analyze Findings
  - Identify CSGD at each step
  - What did or did not happen
  - Interpret laboratory findings
  - Plot time/temperature curves
  - Diagram process – food flow
- Laboratory Evidence
  - Samples tested
  - Agents tested for
  - Results
    - report even if negative
  - Interpretation
- Discussion
  - Concise
  - Acknowledge study limitations

- Rationale for accepting or rejecting hypotheses

- Recommendations

- Goal: Prevent reoccurrence

  - Specific to this outbreak and/or facility

  - Industry-wide implications

- Delete personal identifiers of affected individuals.

- Include the names of the LHD personnel or authorized personnel involved in the investigation.

- Final reports can be used to improve future investigations and prevent future outbreaks.

- Well-conducted and documented investigations increase understanding of foodborne illnesses.

- Reports will identify:

  - New trends

  - New regulations or policies

  - Training needs

  - Reinforce existing regulations.

❑ Complete CDC form 52.13.

- For outbreaks definitely associated with food consumption (laboratory or epidemiological evidence).

- See Appendix 3 for example.

- Submit to MDA. The form is then forwarded to MDCH and CDC.

- The CDC only includes in national statistics those outbreaks where a completed Form 52.13 was received.

- Documentation should be as follows:

Type of Outbreak	Written Report	CDC Form 52.13
Foodborne Illness Outbreak	X	X
Likely	X	X
Unlikely	X	
Non Foodborne	X	

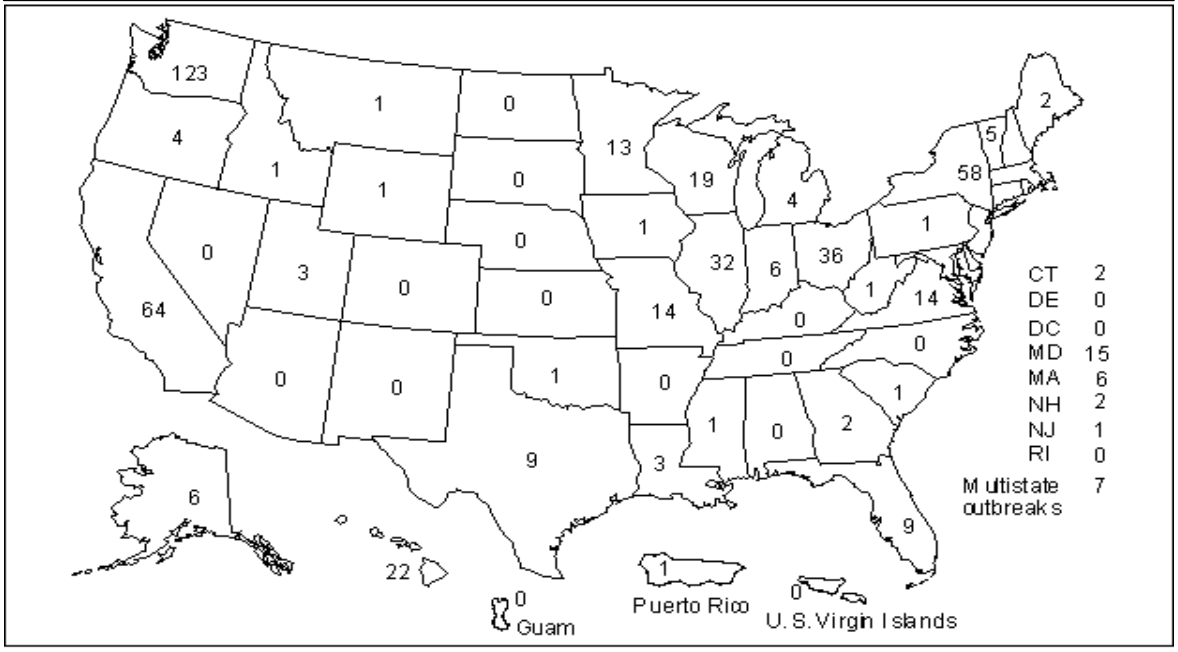
- ❑ Submit to MDA.

D. Use Investigative Data for Prevention

- ❑ Hold investigation team meeting to review investigation and findings.
  - Review contributions of various disciplines (epidemiology, environmental health, and laboratory groups). Discuss:
    - Strengths and weaknesses of the investigation
    - How to increase effective collaboration in the future
- ❑ Identify risk factors that caused or contributed to the outbreak.
  - The specific cause(s) of an outbreak is not always identified.
  - Identifying and correcting contributing factors to the outbreak is vital.
- ❑ Determine the extent of high-risk practices.
  - Ensure inspection staff are aware of and looking for factors known to be causing current outbreaks.
- ❑ Develop a plan to reduce risk factors.
  - Target the agent, source, and mode of transmission.
  - Take into consideration existing resources.
  - Top causes of disease in your jurisdiction may not be the same as neighboring ones.
  - Evaluate the following before ending the investigation:
    - Appropriateness and effectiveness of initial control measures

- Long-term strategies to prevent future outbreaks of the same type

Example 1: National data has historically been based on information from a few states - 1993



Washington = 21% of reported outbreaks
California = 11%
New York = 10%
Michigan < 1%

- Communicate findings to those who can put them into practice.
  - Make use of "teachable moments" created by outbreaks.
  - Share information with local food industry organizations.
  - Provide feedback on:
    - The leading causes of foodborne illness in your jurisdiction.
    - Actions that can be taken to prevent foodborne illness.

Example 2: Norwalk-Like-Virus outbreaks in Michigan – see Appendix 10: Communications

Example 3: 1999 Food Code - based on national data

Leading Risk Factors	Key Public Health Interventions
• unsafe sources	• demonstrating knowledge
• inadequate cooking	• employee health controls
• improper holding	• controlling hands as a vehicle of contamination
• contaminated equipment	• time and temperature controls
• poor personal hygiene	• consumer advisory